### **The Al Decision Making** "Black Box"

In Air Transportation Management the **Decision Making Process is already** associated with Al. The algorithms are meant to help ATCOs in daily tasks, but they still face accentability issues. Today's automation systems with Al/Machine Learning do not provide additional information on top of the Data Processing result to support its explenation, making them no transparent enough. The Decision Making Process is expected to become a "White box", giving understandable outcome through an understandable process.

### **ARTIMATION Solution**

ARTIMATION's goal is providing a transparent and explainable AI model through visualization, data driven storytelling and immersive analytics. This project will take advantage of human perceptual capabilities to better understand Al algorithm with appropriated data visualization as a support for explainable AI (XAI), exploring in the ATM field the use of immersive analytics to display information.

### **ARTIMATION'S Consortium**





# ARTI**MATION**

**Transparent Artificial intelligence and Automation to Air Traffic** Management



### What is XAI?

It is an Artificial Intelligence that is explainable, in which the results of the outout can be understd numn. Al passes through different levels of explainability:



Current "Black Box" level: the result of a data processing is given without any explanation or data visualization.

► Level 1: can give a simple explanation or no possible explanation.

Level 2: give a full explanation of the proposed solution.

Level 3: the user can input some information (preferable solution or constrains).

## Why implement XAI in ATM domain?

Justify

Al systems should function according to values that are aligned to those of humans, so that they are accepted by our societies and by the environment in which they are intended to function. This is essential not just in autonomous systems, but also in systems based on human-machine collaboration, since value misalignment could preclude or impede effective teamwork.

То

**Control Discover Improve** 

**ATM Decision Making** 

Al systems need to be as transparent as possible to be trusted by people.